

## PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)



REC'D 15 JUN 2004

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See Notification of Transmittal of International  
Preliminary Examination Report (Form PCT/PEA/416)

Applicant's or agent's file reference 62531A	<b>FOR FURTHER ACTION</b>	
International application No. PCT/US 03/21434	International filing date (day/month/year) 09.07.2003	Priority date (day/month/year) 17.09.2002
International Patent Classification (IPC) or both national classification and IPC C08J9/04		
Applicant DOW GLOBAL TECHNOLOGIES INC. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
  
☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand  11.03.2004	Date of completion of this report  11.06.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Kairi, M  Telephone No. +49 89 2399-8672  

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/US 03/21434**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-15 as originally filed

**Claims, Numbers**

1-19 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-19
	No: Claims	
Inventive step (IS)	Yes: Claims	1-19
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US03/21434

**Article 33(2) PCT**

The document US-A-4 028 158 (D1) does not disclose a polymeric foam composite comprising a polymeric foam comprising phosphorous or a residual blowing agent composition containing less than 50 percent, based on residual blowing agent composition, of chlorofluorocarbon and hydrochlorofluorocarbon blowing agents.

The document EP-A-0 832 735 (D2) does not disclose a polymeric foam composite comprising a polymeric foam comprising halogens at a concentration of at least 4 weight-percent based on foam weight or a residual blowing agent composition containing less than 50 percent, based on residual blowing agent composition weight, of chlorofluorocarbon and hydrochlorofluorocarbon blowing agent(s).

The document GB-A-895 967 (D3) does not disclose a polymeric foam composite comprising a polymeric foam comprising phosphorous, a residual blowing agent composition containing less than 50 percent, based on residual blowing agent composition weight, of chlorofluorocarbon and hydrochlorofluorocarbon blowing agent(s), flame-retarding fibers or a facing sheet adhered to at least the front surface, said facing sheet having an exposed metal sheet.

**Article 33(3) PCT**

The closest prior art document D1 discloses in Example 1 a structural laminate produced by contacting a mat of glass fibers with a foam-forming mixture. The mat of glass fibers was substantially incompressible and had an overall thickness of 0.030 inches. The ingredients of the foam-forming mixture were arranged in three tanks as follows: In tank 11: polymethylenepolyphenyl isocyanate sold under the trademark "PAPI-20" from Upjohn Chemical Company, 100 parts; fluorotrichloromethane, 18.8 parts; polydimethylsiloxane polyoxyalkylene copolymers sold as L-5340 available from Union Carbide, 2.16 parts; in tank 12: diethylene glycol, 8.3 parts; in tank 13: 2,4,6-tris(dimethylaminomethyl)phenol sold as DMP-30 from Rohm and Haas Company, 0.84 parts; potassium-2-ethyl-hexoate, 1.75 parts; polyoxyethylene glycol (m. w. 200) sold as Carbowax 200 from Union Carbide Company, 7.41 parts. The pull rolls are then started as are the pumps which deliver the contents of the tanks 11, 12 and 13 to the mixing head in a weight ratio of 100:6.87:3.04. This corresponds to an equivalent ratio of isocyanate to diethylene glycol of 4.6:1. The foam-forming mixture completely fills the interstices between the individual fibers of the glass fiber mat wetting the individual fibers of the glass fiber mat. Two facing sheets of aluminum foil, each having a thickness of about 0.0015 inches are positioned one on each side of the glass fiber mat and foam-forming mixture. The facing sheets having the mat and foam-forming mixture

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therebetween then pass through the nip of the two rotating rolls into an oven maintained at a temperature of 225°F where the foam-forming mixture expands in an expansion zone to a substantially uniform thickness of one inch, the glass fiber mat being included at the rate of 9.5 grams of glass fiber per board foot of laminate produced.

The subject-matter of the present invention differs from D1 in that the polymeric foam comprises phosphorous and a residual blowing agent composition containing less than 50 percent, based on residual blowing agent composition weight, of chlorofluorocarbon and hydrochlorofluorocarbon blowing agent(s).

The object of the present invention is to provide a polymeric foam and foam composite that contains a residual blowing agent composition that contains less than 50 wt percent CFC and HCFC blowing agents and still successfully passes both the wall and ceiling portions of the RCBT.

The solution provided is non-obvious, since none of the prior art contains a hint of a polymeric foam comprising a residual blowing agent composition containing less than 50 percent, based on residual blowing agent composition weight, of chlorofluorocarbon and hydrochlorofluorocarbon blowing agent(s) and still successfully passing both the wall and ceiling portions of the RCBT.